

Three New *Glyphipterix* Species from Ishigaki Island, the Ryukyu Islands (Lepidoptera: Glyphipterigidae)

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During a survey of the microlepidopterous fauna of Ishigaki Island, the Ryukyu Islands, in 1978, I discovered three apparently undescribed species of *Glyphipterix* to be described and figured in this paper. No records have so far been made on the fauna of the Glyphipterigidae sensu stricto of Ishigaki Island.

The type-series will be deposited in the collection of the Zoological Laboratory, Faculty of Agriculture, Meijo University.

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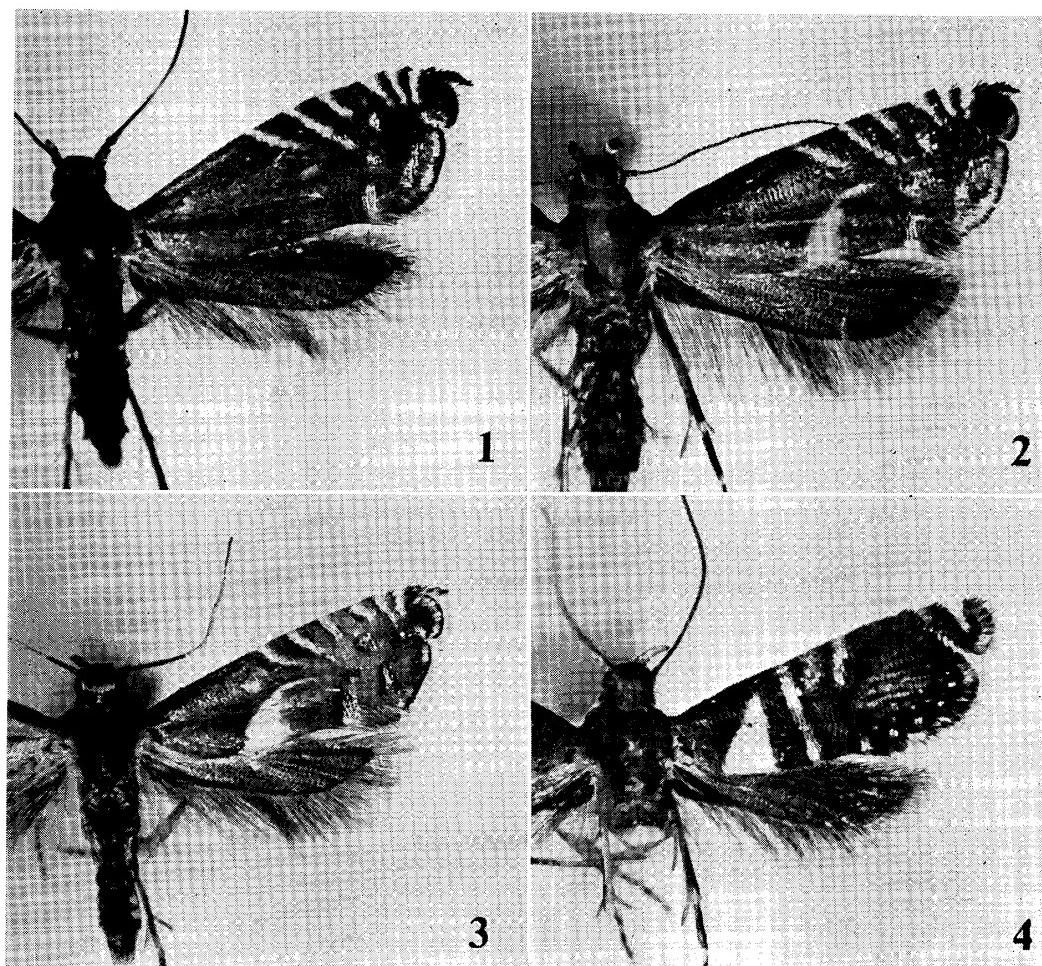
Glyphipterix imparfasciata sp. nov.

(Figs. 1-2, 5, 8)

♂. Alar expanse 9.5-10.5 mm. Head and antenna greyish fuscous. Palpus curved, white, with four dark fuscous transverse bands, tip of terminal segment dark fuscous. Thorax and abdomen greyish fuscous, segmental margins of the latter greyish, anal tuft whitish. Forewing rather narrow at base, posteriorly dilated, costa gently arched, apex rounded, termen indented below apex, moderately oblique; basal 2/3 greyish fuscous, costal margin dark fuscous, posterior 1/3 bronzy orange; six creamy yellow short streaks on costa from middle to just before apex; first streak from a little before middle; second the longest, beyond middle, terminating in a leaden-metallic line; third short; outer three streaks short, wedge-shaped, more approximated; a rather short leaden-metallic streak from dorsum before tornus, yellowish on margin; two rounded spots of leaden-metallic beyond disc in a straight series; a short leaden-metallic streak on termen; a small leaden-metallic dot on termen beneath apex; cilia fuscous, basal half greyish, outer half whitish, with a fuscous hook-like protrusion at above apex. Hindwing dark fuscous; cilia grey.

♀. Alar expanse 10-11.5 mm. Forewing with a thick curved white streak from dorsum before middle, tapering, extending beyond half across the wing. Otherwise as male.

Male genitalia (Fig. 5). Tegumen moderately long and slender. Tuba analis shorter than tegumen, pointed at tip. Vinculum semi-oval, as broad as high. Saccus about 1/5 wide of vinculum. Valva rather broad, terminal margin concave, long and strong, with several spines on apical area, apex with short acute spines, long hairs along dorsum. Aedeagus moderate, as long as valva, top with a pair of bristles, with a



Figs. 1-4. Right wings of *Glyphipteryx* species. 1. *G. imparfasciata* sp. nov., ♂, paratype.—2. do, ♀, paratype.—3. *G. trigonodes* sp. nov., ♂, paratype.—4. *G. luteomaculata* sp. nov., ♂, holotype.

tubular cornutus.

Female genitalia (Fig. 8). Ovipositor slender, rather long, extensile. Postapophyses long and slender, longer than anapophyses. Sterigma rectangular, with lower angles projecting; ostium bursae very small. Ductus bursae moderately slender. Corpus bursae oblong-oval. Signum, a small sclerite and a pair of short slender tubes.

Holotype: ♂, Ryukyus, Yaeyama Is., Ishigaki I., Mt. Omoto-dake, 8. V. 1978 (Y. ARITA), genit. slide 376 YA.

Paratypes: 2 ♂, 4 ♀, same locality as holotype, 2. V. 1978 (Y. ARITA); 2 ♂, 2 ♀, same locality, 5. V. 1978; 3 ♀, same locality, 8. V. 1978, genit. slide ♀ 377, ♀ 393 YA.

Distribution: Japan, the Ryukyu Islands (Ishigaki I.).

Remarks: This interesting species is characterized by its sexual dimorphism: the forewing of the male is lacking in a tapering thick curved white streak from dorsum before middle, which is present in the female.

Glyphipterix trigonodes sp. nov.

(Figs. 3, 6, 9)

♂ & ♀. Alar expanse 8–10 mm. Head greyish fuscous. Antenna fuscous. Palpus curved, with four oblique dark fuscous transverse bands, tip dark fuscous. Thorax greyish fuscous. Abdomen greyish fuscous, segmental margins greyish, anal tuft whitish. Forewing rather narrow, costa little arched, almost straight posteriorly, apex rounded, fuscous, termen oblique, indented below apex; basal 2/3 greyish fuscous, costal margin dark fuscous, posterior 1/3 orange; a broad oblique curved white streak from dorsum before middle, becoming more slender and acute towards tip, reaching half across wing and terminating in a leaden-metallic spot; six short white streaks from costa, obscurely fuscous margined at anterior part, each terminating in a leaden-metallic spot, dot or short line; first two streaks longer than the others; first form a little before middle; second beyond middle, reaching 2/5 across wing; third short; outer three streaks short, more approximated; a leaden-metallic dot on dorsum before tornus, indistinctly margined with fuscous shade at anterior part; two rounded leaden-metallic spots beyond the disc in a curved series with tornal streak; a short leaden-metallic streak on termen, with fuscous line anteriorly; a small leaden-metallic dot on termen below apex; cilia whitish, but basal half greyish, with a fuscous median line, tips of cilia above apex with a fuscous hook. Hindwing greyish fuscous; cilia grey.

Male genitalia (Fig. 6). Tegumen rather broad at base, elongate-subtriangular. Tuba analis shorter than tegumen. Vinculum broad, gradually narrowed towards base. Valva narrow, arched, costal margin concave before apex. Aedeagus longer than valva, rather narrow at base, gradually narrowed towards top, which is strongly clavate. Cornutus tubular and slender.

Female genitalia (Fig. 9). Ovipositor moderately long, gradually narrowed, papillae anales broad basally. Postapophyses long, slender, longer than anapophyses. Sterigma oval; ostium bursae small, rounded. Ductus bursae rather slender, as long as corpus bursae. Corpus bursae large, oblong-oval. Signum small, with two hooks.

Holotype: ♂, Ryukyus, Yaeyama Is., Ishigaki I., Takeda, 10. III. 1978 (Y. ARITA), genit. slide 370 YA.

Paratypes: 1 ♂, 2 ♀, same locality as holotype, 10–13. III. 1978 (Y. ARITA), genit. slide ♀ 371 YA; 6 ♂, 4 ♀, same locality, 7. V. 1978 (Y. ARITA).

Distribution: Japan, the Ryukyu Islands (Ishigaki I.).

Remarks: This peculiar species is very distinct in having the forewing with a broad oblique curved white patch from dorsum before middle, and can easily be separated from the other *Glyphipterix* species.

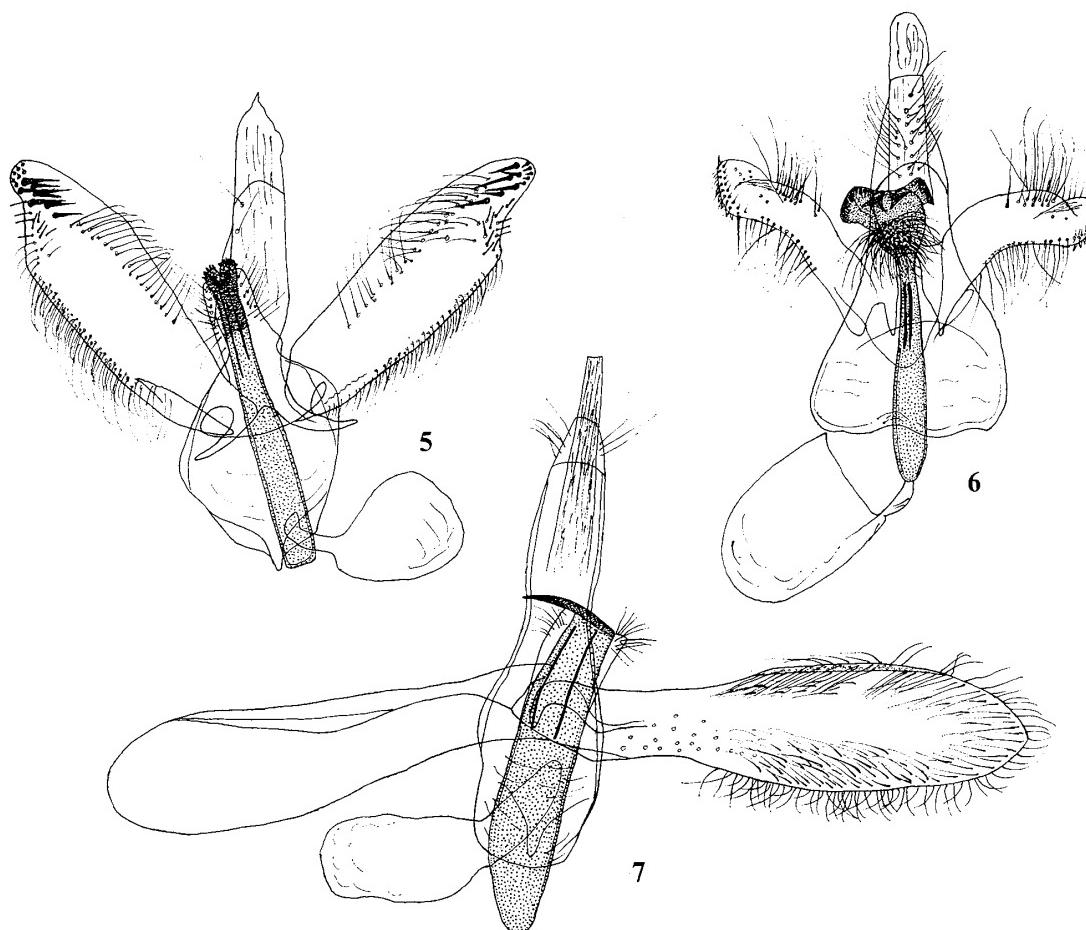
Glyphipterix luteomaculata sp. nov.

(Figs. 4, 7, 10)

♂ & ♀. Alar expanse 9–12.5 mm. Head greyish fuscous. Antenna fuscous. Palpus moderately long, curved, flattened dorso-ventrally, apical segment as long as median, pointed; inner side white, outer side fuscous with white scales. Thorax and abdomen greyish fuscous, segmental margin of the latter partially greyish, anal tuft

whitish. Forewing moderately broad, dilated, costa slightly arched, apex rounded, termen indented below apex, strongly oblique; fuscous, an acute triangular lemon-yellow blotch on 1/3 of dorsum nearly reaching costa; an almost straight transverse streak of purplish-metallic colour from 2/5 of costa to a little before middle of dorsum; a transverse streak of the same colour from an orange-yellow costal dot on middle of costa, reaching nearly 1/3 across wing; an orange-yellow streak on costa beyond middle, being between the purplish-metallic streaks; a large irregular black blotch along termen to tornus, restricted by a purplish-metallic dot in tornus, and containing four dots of the same colour along termen, and six to eight orange-yellow irregular dots along upper edge of the black blotch; above this black blotch the disc is dark fuscous, sprinkled with whitish scales; a purplish-metallic line from subapical indentation nearly to costa across wing; a white elongate wedge-shaped transverse streak, followed by a purplish-metallic costal dot almost in apex; cilia greyish fuscous, fuscous in basal half. Hindwing fuscous; cilia greyish fuscous.

Male genitalia (Fig. 7). Tegumen long, narrow, cylindrical. Tuba analis triangular. Vinculum wide, rounded dorsally, ventrally with a slender acute saccus, not projecting beyond the edge of vinculum. Valva rather long, ovate-lanceolate, posterior 2/3 haired, basal 1/3 considerably narrowed, base with a long sclerotized process



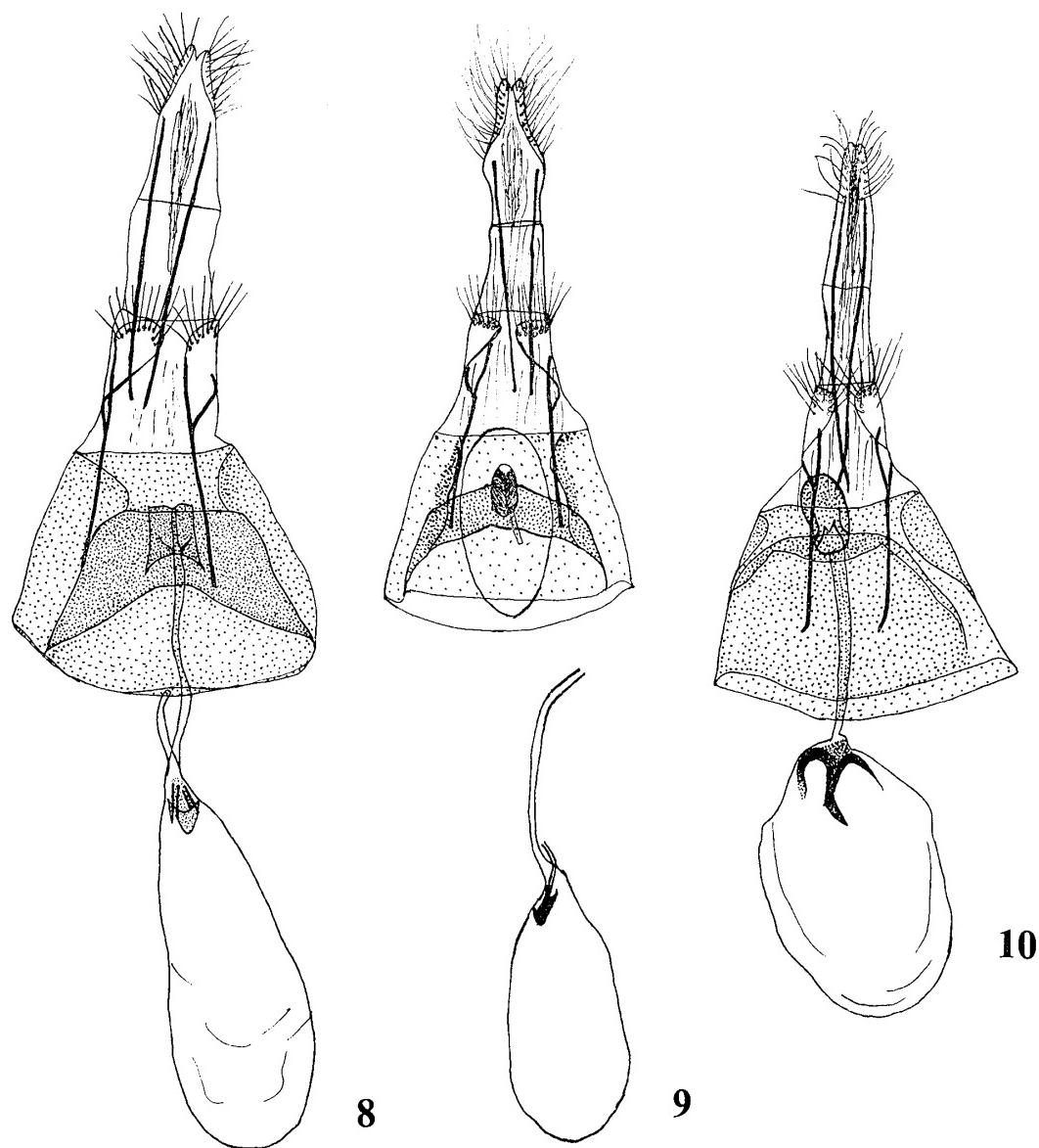
Figs. 5–7. Male genitalia of *Glyptipterix* species, holotypes.—5. *G. imparfasciata* sp. nov.—6. *G. trigonodes* sp. nov.—7. *G. luteomaculata* sp. nov.

(processus basalis). Anellus conical, simple, membranous, gently narrowed. Aedeagus stout, wide, less than 3/4 length of valva, top with a large thorn. Cornutus tubular and wide.

Female genitalia (Fig. 10). Ovipositor rather long, slender, extensible; postapophyses slender, long; anapophyses straight, moderately long, shorter than postapophyses. Ostium bursae large, elongate oval. Ductus bursae not so slender, as long as 7th sternite. Corpus bursae ovoid, with a large anchor-like trifid signum.

Holotype: ♂, Ryukyus, Yaeyama Is., Ishigaki I., Mt. Omoto-dake, 2. V. 1978 (Y. ARITA), genit. slide 378 YA.

Paratypes: 2 ♀, same locality and date as holotype, genit. slide ♀ 379 YA; 6 ♂, 1 ♀, same locality, 5. V. 1978 (Y. ARITA); 9 ♂, 3 ♀, same locality, 8. V. 1978



Figs. 8-10. Female genitalia of *Glyptipterix* species, paratypes.—8. *G. imparfasciata* sp. nov., genit. slide 393 YA.—9. *G. trigonodes* sp. nov., genit. slide 371 YA.—10. *G. luteomaculata* sp. nov., genit. slide 379 YA.

(Y. ARITA).

Distribution: Japan, the Ryukyu Islands (Ishigaki I.).

Remarks: This gaudy coloured species is similar to *Glyphipterix basifasciata* ISSIKI from Japan, but is distinct in the colour of the dorsal blotch, which is white in *basifasciata* and lemon-yellow in *luteomaculata* sp. nov. The trifid signum is unique.